

CLAIMS

What is claimed is:

1. A tag secured to an object for monitoring the object, comprising:

a strap with a first end, a second end, an electrical path coupled to the strap running from the first end to the second end, and one or more raised portions wherein a proximal end and a distal end of the electrical path are on the one or more raised portions;

a cradle that detachably couples the first end of the strap to the cradle and detachably couples the second end of the strap to the cradle; and

an integrated circuit with a first contact and a second contact wherein the first contact electrically couples to the proximal end of the electrical path and the second contact electrically couples to the distal end of the electrical path.

2. The tag of claim 1, wherein the integrated circuit monitors one or more electrical properties of the electrical path and transmits a signal when the one or more electrical properties change.

3. The tag of claim 1, wherein the electrical path is thicker along portions of the strap that make contact with the cradle.

4. The tag of claim 1, wherein the electrical path is thicker along high stress portions of the strap.

5. The tag of claim 1, wherein both the proximal end and distal end of the electrical path are on the first end of the strap.
6. The tag of claim 1, wherein the integrated circuit is within a housing that detachably couples to the cradle and the first and second contacts protrude through openings in the bottom of the housing.
7. The tag of claim 6, wherein the cradle and the housing sandwich the strap.
8. The tag of claim 6, wherein a recessed portion of the cradle located on a surface between the housing and the cradle receives the first end of the strap.
9. The tag of claim 8, wherein the recessed portion and the first end of the strap have a proximal portion and a distal portion and the proximal portion is narrower than the distal portion.
10. The tag of claim 7, wherein adhesive couples the first end of the strap to a surface of the cradle.
11. The tag of claim 7, wherein the cradle has a post and the first end of the strap has an opening to receive the post.
12. The tag of claim 1, wherein the cradle has a cinching mechanism that receives the second end of the strap.

13. The tag of claim 12, wherein the strap has two or more openings located lengthwise along the strap on the second end that engage the cinching mechanism.

14. The tag of claim 13, wherein the electrical path zigzags between the two or more openings located lengthwise along the strap on the second end.

15. The tag of claim 1, wherein the integrated circuit is within a housing with the first and second contacts protruding through openings in the bottom of the housing and the housing slidably couples to one or more rails on the cradle sandwiching the strap and the one or more raised portions and causing the first and second contacts to compress the one or more raised portions.

16. A tag secured to an object for monitoring the object, comprising:

 a strap with a first end, a second end, and an electrical path coupled to the strap running from the first end of the strap to the second end of the strap;

 a cradle that detachably couples the first end of the strap to the cradle and detachably couples the second end to the cradle;

 an integrated circuit electrically coupled to a first end of the electrical path and a second end of the electrical path wherein the integrated circuit monitors one or more electrical properties of the electrical path; and

a transmitter electrically coupled to the integrated circuit and the electrical path wherein the transmitter radiates a radio wave through the electrical path when the one or more electrical properties change.

17. The tag of claim 16, wherein the transmitter is electrically coupled to the integrated circuit, an antenna, and the electrical path wherein the transmitter radiates the radio wave through the antenna and the electrical path when the one or more electrical properties change.

18. The tag of claim 16, wherein the transmitter is electrically coupled to the integrated circuit, an antenna, and the electrical path wherein the transmitter radiates the radio wave through the antenna and the first end of the electrical path when the one or more electrical properties change.

19. The tag of claim 16, wherein the strap and electrical path have a break point at a location in which the length of the electrical path equals a multiple of the wavelength of a frequency of transmission.

20. The tag of claim 16, wherein the transmitter electrically coupled to the integrated circuit, an antenna, and the electrical path wherein the transmitter radiates the radio wave through the antenna and the first end and the second end of the electrical path when the one or more electrical properties change.

21. A tag secured to an object for monitoring the object comprising:
an object proximity detector;

a motion sensor;
a transmitter in communication with a monitoring system; and
an integrated circuit in communication with the object proximity detector, the transmitter, and the motion sensor wherein the integrated circuit signals the monitoring system via the transmitter when the object proximity detector is separated from the object and the integrated circuit increases power consumption of the tag for a period of time when the motion sensor detects motion.

22. The tag of claim 21, wherein the integrated circuit increases power consumption of the tag by supplying power to the transmitter.

23. The tag of claim 21, wherein the integrated circuit increases power consumption of the tag by supplying power to the object proximity detector.

24. The tag of claim 21, wherein the integrated circuit increases power consumption of the tag by transmitting a periodic signal via the transmitter to the monitoring system.